

Claims

I claim:

1 1. A wound irrigation device comprising a reservoir housing, containing a wound
2 irrigation solution, and a discharge means, wherein said discharge means is removably
3 attached to said reservoir housing, such that said discharge means directs a pressurized
4 stream of said wound irrigation solution when said reservoir housing is pressurized.

1 2. The wound irrigation device according to claim 1, wherein said discharge means
2 comprises a flat disc.

1 3. The wound irrigation device according to claim 2, wherein said flat disc comprises
2 a plurality of ports.

1 4. The wound irrigation device according to claim 3, wherein said plurality of ports
2 discharge a plurality of pressurized streams of the wound irrigation solution at an angle, such
3 that said pressurized streams intersect over a center of said discharge means.

1 5. The wound irrigation device according to claim 3, wherein said discharge means
2 comprises four ports.

1 6. The wound irrigation device according to claim 5, wherein each of said ports has
2 a diameter of about 0.04 inches.

1 7. The wound irrigation device according to claim 3, wherein said reservoir housing
2 comprises a threaded neck and an opening.

1 8. The wound irrigation device according to claim 7, wherein said flat disc is
2 positioned over said opening.

1 9. The wound irrigation device according to claim 8, wherein said flat disc is affixed
2 over said opening with a threaded end cap comprising a connection ring which engages said
3 flat disc, such that said ports are uncovered.

1 10. The wound irrigation device according to claim 9, wherein said threaded end cap
2 further comprises a removable protective membrane, wherein said protective membrane
3 protects said ports and said wound irrigation solution from contamination.

1 11. The wound irrigation device according to claim 10, wherein said protective
2 membrane comprises a pull tab, such that said protective membrane may be removed by
3 pulling said pull tab.

1 12. The wound irrigation device according to claim 1, further comprising a splash
2 guard.

1 13. The wound irrigation device according to claim 12, wherein said splash guard
2 is hemi-spherical.

1 14. The wound irrigation device according to claim 13, wherein said splash guard
2 comprises a removable protective cap.

1 15. The wound irrigation device according to claim 1, wherein said discharge means
2 is an adjustable discharge means, whereby said adjustable discharge means permits
3 adjustment of the rate of discharge of said irrigation solution.

1 16. The wound irrigation device according to claim 15, wherein said adjustable
2 discharge means comprises a valve cap and a valve head, wherein said valve cap is

3 removably affixed to said reservoir housing and said valve head is threadably affixed to said
4 valve cap.

1 17. The wound irrigation device according to claim 16, wherein said valve cap
2 comprises an inner air inlet and an inner water outlet, wherein said inner water outlet
3 substantially surrounds said inner air inlet.

1 18. The wound irrigation device according to claim 17, wherein said valve head
2 comprises an outer air inlet and an outer water outlet, wherein said outer water outlet
3 substantially surrounds said water air inlet.

1 19. The wound irrigation device according to claim 18, wherein said outer air inlet
2 comprises a circular port.

1 20. The wound irrigation device according to claim 18, wherein said outer water
2 outlet comprises a plurality of circular ports.

1 21. The wound irrigation device according to claim 18, wherein said inner air inlet
2 and said outer air inlet combine to form an air inlet, and said inner water outlet and said outer
3 water outlet combine to form a water outlet.

1 22. The wound irrigation device according to claim 21, further comprising an air
2 hose, wherein said air hose comprises a proximal end and a distal end, wherein said proximal
3 end of said air hose is affixed to said inner air outlet and said distal end of said air hose is
4 located near a bottom inner surface of said reservoir housing.

1 23. The wound irrigation device according to claim 22, wherein said distal end of
2 said air hose comprises a ball valve.

1 24. A method for irrigating a wound, said method comprising the following steps:

2 (a) providing a sterile wound-irrigation solution in a compressible or pressurized
3 reservoir housing having a discharge means comprising at least one port therethrough
4 wherein said port forms a nozzle for directing a pressurized stream of said solution, and
5 wherein the shape and configuration of said port, or ports, results in a dispersed stream of
6 said solution;

7 (b) directing the discharge means and reservoir housing so as to discharge the
8 wound-irrigation solution toward said wound; and

9 (c) discharging said wound-irrigation solution from said reservoir housing and
10 through said port, or ports, to produce a dispersed stream of said wound-irrigation solution
11 directed at said wound, wherein said dispersed stream is applied with sufficient force to
12 dislodge contaminants, thereby effectively irrigating said wound.

1 25. The method, according to claim 24, wherein said wound-irrigation solution is
2 discharged from said port, or ports, at a pressure between about 4 PSI and about 20 PSI.

1 26. The method, according to claim 24, wherein said discharge means has a plurality
2 of ports.

1 27. The method, according to claim 24, wherein the diameter of said circular
2 apertures is between that of a 10 gauge hypodermic needle and a 30 gauge hypodermic
3 needle.

1 28. The method, according to claim 24, wherein the diameter of said circular
2 apertures is between that of a 16 gauge hypodermic needle and a 25 gauge hypodermic
3 needle.

1 29. The method, according to claim 24, wherein said ports are circular apertures with
2 a diameter of less than about 1/8 inch.

1 30. The method, according to claim 24, wherein said circular apertures are conical
2 in shape through said aperture.

1 31. The method, according to claim 24, wherein said discharge means comprises at
2 least one elongated port.

1 32. The method, according to claim 24, wherein said discharge means is detachably
2 engaged to said reservoir housing.

1 33. The method, according to claim 24, wherein said discharge means comprises a
2 protective shield.

1 34. The method, according to claim 31, wherein said protective shield is detachable.